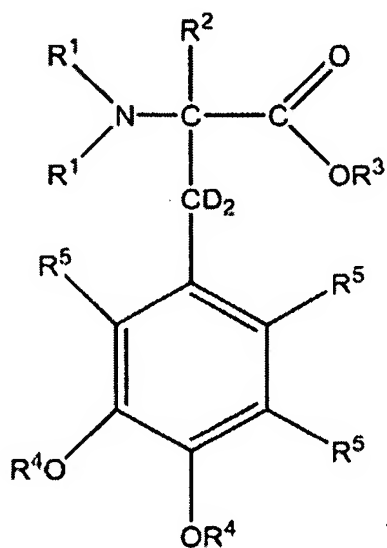


**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) Deuterated catecholamine derivatives of the general formula I



Formula I

wherein

$R^1$  is H or D,  $R^2$  indicates H or D,  $R^3$  is H, D,  $C_1$ - $C_6$  alkyl or  $C_5$  to  $C_6$ -cycloalkyl, deuterated  $C_1$  to  $C_6$ -alkyl or deuterated  $C_5$  to  $C_6$ -cycloalkyl,  $R^4$  indicates H or D and  $R^5$  is H or D, and wherein at least one of  $R^1$ ,  $R^2$ ,  $R^3$  and  $R^4$  is D.

2. (Original) Deuterated catecholamine derivatives according to claim 1, wherein  $R^1$  is H or D,

$R^2$  indicates H or D,  $R^3$  is H, D,  $C_1$  to  $C_6$ -alkyl or  $C_5$  to  $C_6$ -cycloalkyl, deuterated  $C_1$  to  $C_6$ -alkyl or deuterated  $C_5$  to  $C_6$ -cycloalkyl,  $R^4$  indicates H or D and  $R^5$  is D.

3. (Original) Deuterated catecholamine derivatives according to claim 1, wherein  $R^1$  is H or D,  $R^2$  indicates D,  $R^3$  is D,  $C_1$  to  $C_6$ -alkyl or  $C_5$  to  $C_6$ -cycloalkyl, deuterated  $C_1$  to  $C_6$ -alkyl or deuterated  $C_5$  to  $C_6$ -cycloalkyl,  $R^4$  indicates H or D and  $R^5$  is D.

4. (Original) Deuterated catecholamine derivatives according to claim 1, wherein  $R^1$  is H or D,  $R^2$  indicates D,  $R^3$  is H, D,  $C_1$  to  $C_6$ -alkyl or  $C_5$  to  $C_6$ -cycloalkyl, deuterated  $C_1$  to  $C_6$ -alkyl or deuterated  $C_5$  to  $C_6$ -cycloalkyl,  $R^4$  indicates H or D and  $R^5$  is D.

5. (Previously presented) Deuterated catecholamine derivatives according to the general formula I, wherein  $R^1$  is H or D,  $R^2$  indicates D,  $R^3$  is  $C_1$  to  $C_6$ -alkyl or  $C_5$  to  $C_6$ -cycloalkyl,  $R^4$  indicates H or D and  $R^5$  is D.

6. (Original) Deuterated catecholamine derivatives according to claim 1, wherein  $R^1$  is H or D,  $R^2$  indicates D,  $R^3$  is methyl,  $R^4$  indicates H or D and  $R^5$  is D.

7. (Original) Deuterated catecholamine derivatives according to claim 1, wherein  $R^1$  is H or D,  $R^2$  indicates D,  $R^3$  is ethyl,  $R^4$  indicates H or D and  $R^5$  is D.

8. (Original) Deuterated catecholamine derivatives according to claim 1, wherein R<sup>1</sup> is H or D, R<sup>2</sup> indicates D, R<sup>3</sup> is perdeuteroethyl, R<sup>4</sup> indicates H or D and R<sup>5</sup> is D.

9. (Original) Deuterated catecholamine derivatives according to claim 1, wherein R<sup>1</sup> is H or D, R<sup>2</sup> indicates H or D, R<sup>3</sup> is perdeuteroethyl, R<sup>4</sup> indicates H or D and R<sup>5</sup> is D.

10. (Original) Deuterated catecholamine derivatives according to claim 1, wherein R<sup>1</sup> is H or D, R<sup>2</sup> indicates H or D, R<sup>3</sup> is perdeuteroethyl, R<sup>4</sup> indicates D and R<sup>5</sup> is H or D.

11. (Currently amended) Deuterated catecholamine derivatives of the general formula I according to claim 1 selected from the group consisting of

~~L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) propionic acid;~~

~~L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) methyl propionate;~~

~~L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;~~

~~L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;~~

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;

L-2-amino-3,3-dideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) propionic acid;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) methyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) ethyl propionate;

L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) cyclohexyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteromethyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuteroethyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(3,4-dihydroxyphenyl) perdeuterocyclohexyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) propionic acid;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) methyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) ethyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) cyclohexyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteromethyl  
 propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuteroethyl propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dihydroxyphenyl) perdeuterocyclohexyl  
 propionate;  
 L-2-amino-2,3,3-trideutero-3-(2,3,6-trideutero-4,5-dideuteroxyphenyl) perdeuterocyclohexyl  
 propionate; and  
 L-2-amino-3,3-dideutero-3-(4,5-dideuteroxyphenyl) perdeuterocyclohexyl propionate.

Claims 12-33 (Canceled).

34. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof;~~ A method for the treatment of dopamine

deficiency diseases or diseases which are based on disrupted tyrosine transport or disrupted tyrosine decarboxylase, such as Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising administering to a patient in need thereof an effective amount of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof.

35. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, in combination with an enzyme inhibitor or several enzyme inhibitors;~~ A method for the treatment of dopamine deficiency diseases or diseases which are based on disrupted tyrosine transport or disrupted tyrosine decarboxylase, such as Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising administering to a patient in need thereof an effective amount of deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, in combination with an enzyme inhibitor or several enzyme inhibitors.

36. (Currently amended) ~~Use of deuterated catecholamine derivatives according to claim 35 as well as physiologically compatible salts thereof, further characterized in that~~ The method as

claimed in claim 35 wherein the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or  $\beta$ -hydroxylase inhibitors.

37. (Currently amended) ~~Use of deuterated catecholamine derivatives according to claim 36 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 36 wherein the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L- $\alpha$ -hydrazino-3,4-dihydroxy- $\alpha$ -methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well as physiologically compatible salts thereof.

38. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 36 as well as physiologically compatible salts thereof further characterized in that~~ The method as claimed in claim 36 wherein the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

39. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 36 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 36 wherein the monoamine oxidase inhibitor is selected from the group consisting of selegiline, moclobemide and tranylcypromine as well as physiologically

compatible salts thereof.

40. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 36 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 36 wherein the  $\beta$ -hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.

Claim 41 (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, A method for the production of pharmaceuticals for the prophylaxis of psychoses as well as for the treatment of acute psychoses, particularly in the case of negative symptomatology and for the treatment of Parkinson's disease, restless leg syndrome, of amyotrophic lateral sclerosis and of multiple system atrophy, said method comprising the steps of providing deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof and combining said deuterated catecholamine derivatives and their physiologically compatible salts with pharmaceutically compatible adjuvants and additives.~~

42. (Previously presented) A pharmaceutical composition, which contains deuterated catecholamine according to claim 1 as well as physiologically compatible salts thereof, for the treatment of Parkinson's disease, of restless leg syndrome, of dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological

symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, in addition to pharmaceutically compatible adjuvants and additives.

43. (Previously presented) A pharmaceutical composition, which contains deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, for the treatment of Parkinson's disease, restless leg syndrome, dystonia, for inhibiting prolactin secretion, for stimulating the release of growth hormone, for the treatment of neurological symptoms of chronic manganese intoxications, of amyotrophic lateral sclerosis and of multiple system atrophy, as well as one or more enzyme inhibitors, in addition to pharmaceutically compatible adjuvants and additives.

44. (Original) The pharmaceutical composition according to claim 43, further characterized in that the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or  $\beta$ -hydroxylase inhibitors.

45. (Original) The pharmaceutical composition according to claim 43, further characterized in that the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L- $\alpha$ -hydrazino-3,4-dihydroxy- $\alpha$ -methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well



as physiologically compatible salts thereof.

46. (Original) The pharmaceutical composition according to claim 43, further characterized in that the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

47. (Original) The pharmaceutical composition according to claim 43, further characterized in that the monoamine oxidase inhibitor is selected from the group consisting of selegiline, moclobemide and tranylcypromine as well as physiologically compatible salts thereof.

48. (Original) The pharmaceutical composition according to claim 43, further characterized in that the  $\beta$ -hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.

49. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, A method~~ for the prophylaxis of psychoses, particularly also of schizophrenia, as well as for the treatment of acute psychoses, particularly in the case of negative symptomatology and particularly also schizophrenia, said method comprising administering to a patient in need thereof an effective amount of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof.

50. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, in combination with one or more enzyme inhibitors;~~ A method for the prophylaxis of psychoses, as well as for the treatment of acute psychoses, particularly in the case of negative symptomatology, said method comprising administering to a patient in need thereof an effective amount of the deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, in combination with one or more enzyme inhibitors.

51. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 50 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 50 wherein the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or  $\beta$ -hydroxylase inhibitors.

52. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 51 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 51 wherein the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L- $\alpha$ -hydrazino-3,4-dihydroxy- $\alpha$ -methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well

as physiologically compatible salts thereof.

53. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 51 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 51 wherein the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

54. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 51 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 51 wherein the monoamine oxidase inhibitor is selected from the group, consisting of selegiline, moclobemide and tranylcypromine as well as physiologically compatible salts thereof.

55. (Currently amended) ~~Use of the deuterated catecholamine derivatives according to claim 51 as well as physiologically compatible salts thereof, further characterized in that~~ The method as claimed in claim 51 wherein the  $\beta$ -hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.

Claim 56 (Canceled).

57. (Previously presented) A pharmaceutical composition, which contains deuterated

catecholamines according to claim 1 as well as physiologically compatible salts thereof, for the prophylaxis of psychoses as well as for the treatment of acute psychoses, particularly in the case of negative symptomatology, in addition to pharmaceutically compatible adjuvants and additives.

58. (Previously presented) Pharmaceutical composition, which contains deuterated catecholamine derivatives according to claim 1 as well as physiologically compatible salts thereof, for the prophylaxis of psychoses and for the treatment of acute psychoses, particularly in the case of negative symptomatology, as well as one or more enzyme inhibitors, in addition to pharmaceutically compatible adjuvants and additives.

59. (Original) The pharmaceutical composition according to claim 58, further characterized in that the enzyme inhibitor or the enzyme inhibitors involve decarboxylase inhibitors and/or catechol-O-methyltransferase inhibitors and/or monoamine oxidase inhibitors and/or  $\beta$ -hydroxylase inhibitors.

60. (Original) The pharmaceutical composition according to claim 59, further characterized in that the decarboxylase inhibitor is selected from the group consisting of D,L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide (benserazide), (-)-L- $\alpha$ -hydrazino-3,4-dihydroxy- $\alpha$ -methylhydrocinnamic acid (carbidopa), L-serine 2-(2,3,4-trihydroxybenzyl) hydrazide, glycine 2-(2,3,4-trihydroxybenzyl) hydrazide and L-tyrosine 2-(2,3,4-trihydroxybenzyl) hydrazide as well as physiologically compatible salts thereof.

61. (Original) The pharmaceutical composition according to claim 59, further characterized in that the catechol-O-methyltransferase inhibitor is selected from entacapone and cabergoline as well as physiologically compatible salts thereof.

62. (Original) The pharmaceutical composition according to claim 59, further characterized in that the monoamine oxidase inhibitor is selected from the group consisting of selegiline, moclobemide and tranylcypromine as well as physiologically compatible salts thereof.

63. (Original) The pharmaceutical composition according to claim 59, further characterized in that the  $\beta$ -hydroxylase inhibitor is selected from calcium 5-butyl picolinate and calcium 5-pentyl picolinate as well as physiologically compatible salts thereof.